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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/726,567 | 12/04/2003 | Jong Han Park | P24640 | 5080 |
| 7055 | 7590 | 03/18/2005 | EXAMINER | |
| GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191 | | | ZEC, FILIP | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3744 | |

DATE MAILED: 03/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/726,567 | | HAN PARK ET AL. | |
| | Examiner | | Art Unit | |
| | Filip Zec | | 3744 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 14 is/are rejected.
- 7) ☐ Claim(s) 4-13 and 15-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 11-19, filed on 12/09/04, with respect to the rejection(s) of claim(s) 1-17 under the judicially created doctrine of "obviousness-type" double patenting have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patents 6,381,974 and 5,927,093 to Hwang et al. and Noguchi et al., respectively. As such, this Office Action is being made non-final to afford the applicants the opportunity to respond to the new grounds of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,381,974 to Hwang et al. Hwang discloses applicant's basic inventive concept, an outdoor unit (see FIG. 1), including a compressor (150, FIG. 1), a refrigerant flow controlling part (180), connected to a discharge end of the compressor for guiding the refrigerant proper to operation conditions selectively, and an outdoor heat exchanger (110) connected to the refrigerant flow controlling part; an indoor unit having an indoor heat exchanger (170) and an

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electronic expansion valve (120) having one end connected to one end of the indoor heat exchanger, a distributor (130) between the outdoor unit and the indoor unit for improving installation freedom of the indoor unit, selectively guiding refrigerant from the outdoor unit to the indoor unit proper to operation conditions, and guiding the refrigerant passed through the indoor unit to the outdoor unit again, and a device for shutting off introduction of the refrigerant into the distributors (M) connected to inoperative indoor unit, said device being an on/off valve (FIG. 6 and 7; col 5, lines 27-42), substantially as claimed with the exception of stating that there is a plurality of said distributors and indoor units. However, the applicant should note that even though Hwang does not disclose a plurality of distributors and indoor units, a mere duplication of parts has no patentable significance, unless a new and unexpected result is produced. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Hwang, by adding a plurality of said distributors and indoor units in order to maximize the capacitance of the indoor heat exchangers.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,927,093 to Noguchi et al. Noguchi discloses applicant's basic inventive concept, an outdoor unit (see FIG. 2), including a compressor (18, FIG. 2), a refrigerant flow controlling part (22), connected to a discharge end of the compressor for guiding the refrigerant proper to operation conditions selectively, and an outdoor heat exchanger (19) connected to the refrigerant flow controlling part; an indoor unit having a plurality of indoor heat exchangers (1a-e) and an electronic expansion valve (21) having one end connected to one end of the indoor heat exchanger, a distributor (11) between the outdoor unit and the indoor unit for improving

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installation freedom of the indoor unit, selectively guiding refrigerant from the outdoor unit to the indoor unit proper to operation conditions, and guiding the refrigerant passed through the indoor unit to the outdoor unit again, and a device for shutting off introduction of the refrigerant into the distributors (15) connected to inoperative indoor unit, substantially as claimed with the exception of stating that there is a plurality of said distributors. However, the applicant should note that even though Noguchi does not disclose a plurality of distributors, a mere duplication of parts has no patentable significance, unless a new and unexpected result is produced. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Noguchi, by adding a plurality of said distributors in order to maximize the capacitance of the indoor heat exchangers.

5. Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,381,974 to Hwang et al., as applied to claim 1 above, and further in view of U.S. Patent 6,189,335 to Ebara et al. Hwang discloses applicant's basic inventive concept, an outdoor unit (see FIG. 1), including a compressor (150, FIG. 1), a refrigerant flow controlling part (180), connected to a discharge end of the compressor for guiding the refrigerant proper to operation conditions selectively, and an outdoor heat exchanger (110) connected to the refrigerant flow controlling part; an indoor unit having an indoor heat exchanger (170) and an electronic expansion valve (120) having one end connected to one end of the indoor heat exchanger, a distributor (130) between the outdoor unit and the indoor unit for improving installation freedom of the indoor unit, selectively guiding refrigerant from the outdoor unit to the indoor unit proper to operation conditions, and guiding the refrigerant passed through the indoor unit to the outdoor

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unit again, and a device for shutting off introduction of the refrigerant into the distributors (M) connected to inoperative indoor unit, said device being an on/off valve (FIG. 6 and 7; col 5, lines 27-42), substantially as claimed with the exception of stating that there is a plurality of said distributors and indoor units and that the distributor includes a supercooling device for supercooling the high pressure liquid refrigerant. Ebara shows a supercooling device (42, FIG. 1) for supercooling the high-pressure liquid refrigerant to be old and fairly common in the refrigerating art. Also, the applicant should note that even though Hwang does not disclose a plurality of distributors and indoor units, a mere duplication of parts has no patentable significance, unless a new and unexpected result is produced. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teachings of Ebara to modify the system of Hwang, by adding a supercooling device to the distributor in order to enhance the efficiency (col 2, lines 55-60) by decreasing the temperature of the liquid refrigerant prior to expansion, and, also, to add a plurality of said distributors and indoor units in order to maximize the capacitance of the indoor heat exchangers.

Allowable Subject Matter

6. Claims 4-13 and 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,647,225 to Fischer, Harry C. et al. teaches a multi-mode high efficiency air conditioning system.

U.S. Patent 6,257,014 to Jao, Chiu Chin teaches an air conditioner arrangement.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Filip Zec whose telephone number is (571) 272-4815. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on (571) 272-4808. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Filip Zec
Examiner
Art Unit 3744


CHERYL TYLER
SUPERVISORY PATENT EXAMINER

FZ